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EXAMINER

SELLERS, ROBERT E

ART UNIT PAPER NUMBER

1712

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/822,888

Applicant(s)

NAKAYOSHI ET AL.

Examiner

Robert Sellers

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) 1-6 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/318,459.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

(A) The alkenyl radicals-containing polyorganosiloxanes.

(B) The organohydrogensiloxanes

(C) The pretreatment of the silver particles with either (i) alkoxysilanes such as those described on page 6, lines 6-10 of the specification, or (ii) organosiloxanes selected from the species of claims 3-5.

(D) The platinum catalysts.

(E) The presence or absence of the siloxy-containing organosilicone compounds, wherein if its presence is elected, a particular species thereof is identified.

(F) The cure inhibitors.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species ***within each of items (A) to (F) hereinabove*** for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-6 are generic.

A reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. In the election filed July 10, 2003 in parent application no. 10/052,760 (page 9), the following species have been elected. The following elections are assumed to be applicable to the instant claims contingent upon the acknowledgement of Catherine U. Brown who has been apprised of the election of species requirement in a telephone conversation conducted on August 31, 2005.

3. (A) A mixture of dimethylvinylsiloxyl-endblocked polydimethylsiloxane and an organosiloxane resin containing trimethylsiloxyl, dimethylvinylsiloxyl and $\text{SiO}_{4/2}$ units, as shown in Example 4 on page 23-24 of the specification.

(B) Trimethylsiloxyl-endblocked polymethylhydrogensiloxane as exhibited in Example 4.

(C) Silver flake treated with a dimethylvinylsiloxyl-terminated dimethylpolysiloxane as shown in Example 4 (claim 4, organosiloxane (C)(ii)(k)).

(D) A chloroplatinic acid/vinylsiloxane complex as exhibited in Example 4.

(E) The presence of an epoxypropoxy-terminated dimethoxysiloxane, dimethylsiloxane and vinylmethylsiloxane organosilicone compound as depicted in Example 9 on page 30.

(F) The phenyl butynol employed in Example 4.

Claims 3 and 5 are withdrawn as being directed to non-elected species of organosilicon compound (C)(ii).

4. The status of the parent applications cited on page 1, paragraph 1 of the specification should be updated to indicate the abandonment of application nos. 08/318,459 and 08/722,733 and the assignment of U.S. Patent No. 6,797,772 to application no. 10/052,760.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2, 4 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,797,772. Although the conflicting claims are not identical, they are not patentably distinct from each other. The patent defines a composition comprising the same types and amounts of instantly claimed components (A), (B), (D), (E) and (F) wherein the silver particles of (C) are pretreated with particular species of alkoxysilanes (i) or organosiloxanes (ii) as opposed to the claimed generic alkoxysilanes (i) or organosiloxanes (ii) which embrace the species of the patent.

Claims 1, 2, 4 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 6, 8, 13, 15, 20 and 22 of Kleyer et al. Patent No. 6,017,587 in view of Chiba et al. Patent No. 5,344,593 and Fukui et al. Patent No. 4,801,445 and Japanese Patent No. 1,249,880 (Japanese '880).

6. Kleyer et al. denotes instantly claimed components (A), (B), (D) and (F) (claim 15) along with an electrically conductive metal particulate such as silver flakes (claim 8).

7. The claimed proportions of (A), (B), (C) and (F) are not recited. Chiba et al. (col. 1, line 61 to col. 2, line 4) discloses a formulation containing 100 parts by weight of a vinyl group-containing polydimethylsiloxane, from 5-50 parts by weight of a hydrosilyl group-containing polydimethylsiloxane, from 30-1000 parts by weight of electroconductive particles such as silver (col. 4, line 55), an amount effective to cure the formulation of a platinum curing catalyst (col. 5, lines 52-64) and a hydrosilylation reaction-controlling agent. It would have been obvious to employ components (A), (B) and (C) within the parameters of Chiba et al. in order to provide a sufficient degree of cure to obtain a good elastic state while maintaining higher hardness, non-yellowing and high temperature thermal stability (col. 4, lines 23-32), and to attain low electrical resistance while maintaining flexibility (col. 5, lines 17-24).

8. The claimed treatment of the silver particles with an alkoxysilane (C)(i) or an organosiloxane (C)(ii) is not recited. Fukui et al. teaches the treatment of metals such as silver with a silicone compound (col. 15, lines 18-27) with a polycyclodimethylsiloxane (col. 5, lines 17-23, compound (B) or a trimethylsiloxy endblocked polymethylhydrogensiloxane corresponding to organosiloxane (k) of claim 4.

9. Japanese '880 describes the absorption of a silane coupling agent such as 3-glycidoxypropyl trimethoxysilane or an alkoxysilane such as methylmethoxysilane (within the realm of alkoxysilane (C)(i) according to page 6, lines 6-7 of the specification) onto silver electrically conductive particles to enhance the tolerance to cold and humidity.

10. It would have been obvious to pretreat the silver particles of Kleyer et al. with the polycyclodimethylsiloxane or trimethylsiloxy endblocked polymethylhydrogensiloxane of Fukui et al. in order to prevent oxidation and to improve the dispersibility (Fukui et al., col. 15, lines 23-27). It would have been obvious to pretreat the silver particles of Kleyer et al. with the 3-glycidoxypropyl trimethoxysilane or alkoxysilane of Japanese '880 in order to improve the tolerance to cold and humidity.

Claims 1, 2, 4 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of Mine et al. Patent No. 5,804,631 in view of (Fukui et al. and Japanese '880) and (Cole et al. Patent No. 5,075,038 and Japanese Patent No. 4-46962).

11. Mine et al. '631 defines the types and amounts of claimed components (A), (B) and (D) together with from 50-2000 parts by weight of an electrically conductive filler (claims 2 and 20) such as silver micropowder (claims 4, 5, 22 and 23).

12. The claimed treatment of the silver particles with an alkoxysilane (C)(i) or an organosiloxane (C)(ii) is not recited. Fukui et al. and Japanese '880 are described in previous paragraphs 8 and 9. It would have been obvious to pretreat the silver micropowder of Mine et al. '631 with the polycyclodimethylsiloxane or trimethylsiloxy endblocked polymethylhydrogensiloxane of Fukui et al. in order to prevent oxidation and to improve the dispersibility (Fukui et al., col. 15, lines 23-27).

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It would have been obvious to pretreat the silver particles of Mine '631 with the 3-glycidoxypopyl trimethoxysilane or an alkoxysilane of Japanese '880 in order to improve the endurance to cold and humidity.

13. The claimed cure inhibitor in an amount of from 0.001-5 parts by weight is not recited. Cole et al. (col. 5, lines 3-9) reports a blend of a vinyl radicals-containing diorganopolysiloxane, an organohydrogensiloxane, a platinum catalyst and a platinum catalyst inhibitor such as acetylenic alcohols (col. 6, lines 12-20) exemplified in a concentration of 1.1 parts by weight (col. 8, lines 60-68, 0.03 gram of 2-methyl-3-butyn-2-ol with 2.77 grams of dimethylvinylsiloxy endblocked polydimethylsiloxane). Japanese Patent No. 4-46962 espouses the use of a hydrosilation inhibitor such as phenylbutynol (CAPLUS abstract, AB, lines 9-10) in an exemplified quantity of 0.008 parts by weight (0.01 gram of phenylbutynol per 120 grams of base resin).

14. It would have been obvious to incorporate the inhibitors of Cole et al. and the Japanese patent into the composition of Mine et al. '631 within the shown levels in order to control the cure rate.

Claims 1, 2, 4 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of Mine et al. Patent No. 5,872,170 in view of Fukui et al. and (Cole et al. Patent No. 5,075,038 and Japanese Patent No. 4-46962).

15. Mine et al. '038 denotes the types and amounts of claimed components (A), (B) and (D) combined with an electrically conductive filler which embraces silver fine powder according to column 16, lines 17-29). The same reasoning as explained in previous paragraphs 12-14 hereinabove is relied upon with respect to the lack of recitation of the claimed pretreated silver particles and cure inhibitor which is rendered obvious by the teachings of Fukui et al, and Cole et al. and the Japanese patent, respectively.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al., Okami et al. Patent No. 5,384,075 and Nakayoshi et al. Patent No. 5,173,765 in view of Fukui et al. and Japanese '880.

16. Chiba et al. (col. 1, line 61 to col. 2, line 4) discloses a formulation containing 100 parts by weight of a vinyl group-containing polydimethylsiloxane, from 5-50 parts by weight of a hydrosilyl group-containing polydimethylsiloxane, from 30-1000 parts by weight of electroconductive particles such as silver (col. 4, line 55), an amount effective to cure the formulation of a platinum curing catalyst (col. 5, lines 52-64) and a hydrosilylation reaction-controlling agent.

17. Okami et al. (col. 1, lines 41-54) sets forth a composition prepared from 100 parts by weight (cols. 8-9, Example 1) of an alkenyl groups-containing organopolysiloxane, an organohydrogensiloxane having from 0.6-6.0 silicon-bonded hydrogen atoms per alkenyl group (col. 4, lines 19-25), a platinum catalyst, from 0.5 to 20 parts by weight (col. 6, lines 48-51) an alkoxy groups-containing organosilicon compound, an electrically conductive filler such as silver powder (col. 7, line 8) and an addition reaction controlling agent (col. 8, lines 4-5) such as 0.01 part of 3-methyl-hydroxylbutyne (col. 8, lines 64-65).

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18. Nakayoshi et al. (col. 3, line 54 to col. 4, line 6) is drawn to a mixture of 100 parts by weight of an alkenyl groups-containing organopolysiloxane, an organohydrogenpolysiloxane with from 0.5-3 silicon-bonded hydrogen atoms per alkenyl group, up to 10 parts by weight of an alkoxy groups-containing organosilicon compound, a catalytic quantity of a platinum catalyst and from 50-2000 parts by weight of a conductive filler such as silver micropowder (col. 6, lines 40-42).

19. Nakayoshi et al. does not recite the claimed cure inhibitor. It would have been obvious to employ the hydrosilylation reaction-controlling agent of Chiba et al. or the 0.01 part by weight of addition reaction controlling agent of Okami et al. in the mixture of Nakayoshi et al. in order to regulate the cure rate.

20. The claimed treatment of the silver particles with an alkoxysilane (C)(i) or an organosiloxane (C)(ii) is not recited. Fukui et al. teaches the treatment of metals such as silver with a silicone compound (col. 15, lines 18-27) with a polycyclodimethylsiloxane (col. 5, lines 17-23, compound (B) or a trimethylsiloxy endblocked polymethylhydrogensiloxane corresponding to organosiloxane (k) of claim 4. Japanese '880 describes the absorption of a silane coupling agent such as 3-glycidoxypropyl trimethoxysilane or an alkoxysilane such as methylmethoxysilane (within the realm of alkoxysilane (C)(i) according to page 6, lines 6-7 of the specification) onto silver electrically conductive particles to enhance the tolerance to cold and humidity.

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21. It would have been obvious to pretreat the silver particles of Chiba et al., Okami et al. and Nakayoshi et al. with the polycyclodimethylsiloxane or trimethylsiloxo endblocked polymethylhydrogensiloxane of Fukui et al. in order to prevent oxidation and to improve the dispersibility (Fukui et al., col. 15, lines 23-27). It would have been obvious to pretreat the silver particles of Chiba et al., Okami et al. and Nakayoshi et al. with the 3-glycidoxypropyl trimethoxysilane or alkoxysilane of Japanese '880 in order to improve the tolerance to cold and humidity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Robert Sellers
Primary Examiner
Art Unit 1712